

Abstract for 25th ALERT Users Group Symposium Reno, NV, May 6-9, 2014

Symposium Topic: The Future of Real-Time Flood Warning

Title of Abstract: Advantages to using real-time Gauge Adjusted Radar Rainfall during extreme storm events.

"The Colorado September 2013 flooding – was it a 1,000 year storm event?"

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Data loss, data validation, rain gauge calibration, and the sparsity of rain gauges can all result in misunderstanding of the actual rainfall during extreme rainfall events. Data loss can occur due to ALERT data packet collisions or marginal data paths. Data can be lost to tight validation parameters, as they can be false positives due to loose data validation parameters. Errors can also be introduced by calibrating rain gauges for a rainfall rate that varies from the rainfall rates during extreme rainfall events. All of these pose some problems when trying to interpret the rainfall. Packet loss can occur from collisions, marginal data paths, while those issues combined with data validation at the base station can increase the misunderstanding of the actual rainfall.

There is another tool in your belt for understanding rainfall in real-time. It is Gauge Adjusted Radar Rainfall. We will walk you through the September, 2013 storm event in Colorado and how real-time Gauge Adjusted Radar Rainfall would have helped with the understanding of the rainfall during the event. We will highlight the strengths and limitations of the gauges, the telemetry, and gauge adjusted radar rainfall during this specific extreme rainfall event.

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Mr. Yost joined OneRain in 2013, as a Meteorologist / Rainfall Analyst. He joined OneRain after spending time at the Department of Atmospheric Science at Texas A&M, and at the Department of Atmospheric Science at Colorado State University. His masters degree was focused on extreme rainfall. Charles serves as OneRain's lead research and development resource for OneRain's next generation radar rainfall products. Charles' particular focus and interests are in radar-derived precipitation estimate techniques, new techniques in extreme-rain events that often cause flooding, mesoscale convective systems, verification of precipitation using traditional and current metrics, and societal impacts of weather.

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Mr. Logan has a broad based background in information systems management and software development across multiple industries. James is an expert in systems integration and software development and deployment, customer care, billing, core business (finance), supply chain management, and field support. Prior to joining OneRain, James served as a senior executive for System Surgeons, Great West Life Assurance and Annuity Company, Convergent Communications, CSG Systems International, and Tele-Communications, Inc. James holds a M.S. in Computer Science from the University of Colorado and a B.S. in Geophysical Engineering from Colorado School of Mines.